4. An electron beam apparatus having an electron analyzer as set forth in claim 3, wherein lens-correcting value δI when the energy shift assumes a value of δE and correcting values δIX and δIY for the deflection means are found using equations

$$\delta I = KI \times \delta E$$
$$\delta IX = KDx \times \delta E$$
$$\delta IY = KDy \times \delta E$$

5. An electron beam apparatus having an electron analyzer as set forth in claim 1, wherein the energy selection means for selecting electrons having a certain energy is an analyzer for energy-dispersing electrons by the use of a magnetic field.

6. An electron beam apparatus having an electron analyzer as set forth in claim 1, wherein the energy selection means for selecting electrons having a certain energy is an analyzer for energy-dispersing electrons by the use of an electric field.

7. A method of controlling lenses in an electron beam apparatus having an illumination optical system consisting of lenses and deflection means for illuminating electrons at a specimen, the electrons being produced and accelerated from an electron gun, an imaging optical system for imaging electrons transmitted through the specimen positioned within a magnetic field of an objective lens, and the electron analyzer having a detection system for detecting the imaged electrons and energy selection means for energy-dispersing the detected electrons and selecting electrons having a certain energy, said method comprising the steps of:

varying an accelerating voltage of the electron gun to shift the detected energy of electrons; and

correcting signals supplied to the lenses and deflection means of the illumination optical system using amounts of correction each obtained by multiplying an energy shift value corresponding to a variation in the accelerating voltage by a corrective coefficient.